

Before the
Federal Communications Commission
Washington, D.C. 20554

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JUN 24 1987

In the Matter of)
) CC Docket 96-45
Federal-State Board on)
Universal Service)

**COMMENTS OF THE ASSOCIATION FOR LOCAL
TELECOMMUNICATIONS SERVICES ON THE WORKSHOPS RELATING
TO THE SELECTION OF A COST PROXY MODEL FOR DETERMINING
UNIVERSAL SERVICE SUPPORT**

The Association for Local Telecommunications Services ("ALTS"), pursuant to Public Notice DA 97-88, hereby submits its comments on the workshops relating to the selection of a proxy cost model for determining the cost of providing service supported by the Universal Service support fund. ALTS is the national trade association representing facilities-based competitive providers of access and local exchange services and has participated actively in this docket since its inception.

The members of ALTS, while not always agreeing with every decision of the Joint Board and its staff, has consistently been impressed with the effort and dedication that has been brought to the difficult task of forging an entirely new system of Universal Service support. The workshops held on January 14 and 15 were extremely helpful to the public, and we assume the Joint Board staff, in articulating the primary differences and issues raised by the three models currently under consideration.

Attached hereto are comments of William Page Montgomery on various specific issues raised in the workshops. Mr. Montgomery

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participated in the workshops as a member of the fourth panel on validation of the models. ALTS adopts the comments of Mr. Montgomery on the specific issues raised in the workshops.

ALTS also wants to emphasize three additional points. First, while ALTS generally agrees with the Joint Board's recommendation that an appropriate cost model should approximate the costs that would be incurred by an efficient competitor entering a market (Recommended Decision at para. 270) the Commission must recognize certain constraints and practical limits on that principle. As a practical matter the general principle must be tempered to some degree. The models under consideration have already recognized certain limits by adopting the existing wire centers of the incumbent local exchange carriers ("ILEC"). Clearly, an efficient competitor entering the market would not necessarily use the existing ILEC wire centers.

Within this context the Commission should also use ILEC inputs for the cost of capital. The ILEC's current cost of capital, properly computed, most nearly reflects the cost of capital of the type of entrant envisioned by the models, and also reflects any added risk from the entry of competitive carriers. If the Commission were to use the cost of capital of the average new entrant without making any adjustments, the incumbent local exchange carriers, who clearly will receive the vast majority of universal service funds for the immediate future, could receive a windfall.

Second, while it is clear that significant effort has been put into each of the models, none of them have reached their

final stage of development and cannot at the present time be adopted by the Commission. The primary differences between the three models appear to be in the inputs selected by the proponents of the models, rather than the models themselves. The Commission and the Joint Board staff must concentrate on the relatively small number of inputs for which there is significantly differing assumptions and make some decisions about those before it can adopt a sufficient model for the purposes of establishing the cost side of the Universal Service support equation.

Third, the members of ALTS are concerned that the Commission focus on adopting a model in a timely manner that is suitable for Universal Service purposes. There was discussion at the workshops that, in addition to estimating costs for Universal Service purposes, any model adopted should also be capable of determining the costs of unbundled network elements and interexchange access. The Commission faces a statutory deadline imposed in Section 254 and any attempt to construct a model to satisfy more than the universal service purposes could result in either an inability to meet the statutory deadline or result the adoption of a model that does not adequately address any of the purposes for which it is adopted. Because competitive provision of local service will not become a reality until the major issues relating to Universal Service are settled, ALTS strongly encourages the Commission to focus its attention on the

appropriate model to be used for Universal Service purposes.
Efforts to adapt any model for other purposes should wait until
after a sufficient model has been adopted in this proceeding.

Respectfully submitted,

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UNIVERSAL SERVICE COST MODELING ISSUES

by William Page Montgomery
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The following comments address a number of points raised during the FCC/Joint Board cost model workshop held January 14 and 15, 1997, and is in response to the FCC Public Notice [DA 97-88] dated January 15.

General points

First, the FCC and Joint Board staff should base their evaluation of the models on the forthcoming versions of both the Hatfield Proxy Model (HPM, Release 3) and the Benchmark Cost Proxy Model (BCPM). These versions appear to represent significant improvements over their predecessors, but still contain some assumptions or calculations that are questionable. For example, it appears that changes in Release 3 of the HPM to increase loop investment and reflect population density will result in a more accurate cost estimate. At the same time, it is unclear whether either model accurately reflects facility sharing. We have not evaluated the Telecom Economic Cost Model (TECM) but believe that some of the assumptions used in developing the model may assist the staff in selecting alternate input scenarios for use with either of the other models. The TECM has not yet been as rigorously documented or tested as the other two models and may require extensive entry of special data, many of which may not be publicly available.

Second, notwithstanding the pending release of enhancements to the models, it is clear that the selection of inputs used in the models should be the primary focus of the FCC/Joint Board staff. The January 9, 1997 report by Christensen Associates for USTA demonstrates the importance of specific input assumptions. Similarly, proprietary sensitivity tests recently performed by US West in Arizona, Washington and Utah demonstrate that using equivalent inputs and assumptions in the HPM and US West's proprietary loop cost model produces similar cost estimates.¹ These analyses indicate that the major input sensitivities relate to capital costs, structure sharing assumptions, overhead loadings and the value of terminal and drop investments.² We discuss below several specific analyses of inputs and assumptions that

¹ These analyses are considered confidential to US West; however, the company may be willing to submit the summary results for consideration by the FCC / Joint Board staff.

² These analyses also suggest that neither of the proxy models produces a set of network facilities markedly inferior to the other model in terms of the ability to provide sufficient quantities of high quality services, contrary to the indications of some workshop participants. If the intrinsic design of either model created an "inferior network" changes in inputs that are not related to network design, like capital costs, would not allow the cost outputs to converge as they do.

the FCC / Joint Board staff should consider.

Third, the staff should ask the Commission to remove confidential status from some information now generally not available publicly. The use of publicly available data is key to making the universal service support mechanism work in a competitive environment.³ In addition, it only makes sense, as a number of participants noted, to put the burden of proof on the companies that have the data. For example, residence and business access lines should be published for each ILEC wire center. Both incumbent and new competitive providers already have good information regarding customer distributions; thus the release of these data are not likely to advantage or disadvantage any particular provider.

Likewise, the list price discounts available from equipment vendors have such a significant effect on investment inputs that failure to better capture actual prices would distort the cost results. The Commission should require Tier I carriers to provide average, non-vendor specific weighted price discounts representing the difference between contemporaneous manufacturer price lists and actual invoice payments, for major central office and outside plant accounts. The data should be averaged over three years in order to eliminate some variations caused by temporary market factors at any given point in time. Investment-related discounts should be carefully segregated from prices for expenses such as software fees in order to avoid data confused by the effects of equipment manufacturers marketing strategies such as "razor blade" pricing.⁴

Finally, the larger goal of creating a model that can be used for a variety of purposes, while attractive with respect to efficient use of scarce regulatory resources, should not be undertaken until the universal service cost proxy issues have been resolved. The use of cost proxies for basic, universal voice grade telephone service is necessary in order to create an open, competitively-neutral system. Further use of such a model for all pricing purposes is merely desirable at this time. Indeed, the pricing of unbundled network elements will differ from the application of the cost proxy model in the universal service context. Many additional unbundled elements and functionalities are required for fair competition, including loops supporting ISDN, HDSL and other capabilities that are not now part of the definition of universal service. There is less synergy between different applications for cost proxies than might be assumed, and the desirability of using the same model assumptions and inputs in different contexts should not divert attention from the cost model issues relevant to universal service.

³ A number of workshop participants suggested ways in which either or both models might be made more accurate, and complex. While some of these ideas are well intended, the FCC / Joint Board staff should avoid enhancements that would require use of non-public data.

⁴ This refers to larger manufacturer discounts applied to initial purchases of equipment, capitalized by the service providers, (razors) in order to support lower or no discounts of expensed software upgrades, vendor support and other enhancements (blades).

Comments on specific issues

The role of hypothetical entrant costs. Workshop participants made several references to the statement in paragraph 270 of the Joint Board's Recommended Decision that an appropriate cost model would estimate the costs faced by a hypothetical entrant in each geographic area being studied. Neither model represents such costs literally, nor do the Joint Board's evaluation criteria entirely capture such costs. For example:

1. No economically rational entrant would attempt to build a network based upon the number and size of the incumbent provider's switching nodes, as specified by the existing criteria. Indeed, the ability to more dynamically substitute between switching and transport facilities using current telecommunications technology is one of the key factors why local competition is now economically feasible.⁵ Accordingly, the staff should consider relaxing either the assumption that the models reflect the hypothetical entrant's costs, or the existing scorched node assumption.
2. The pattern of competitive entry in any given geographical area will be influenced significantly by the extent to which potential customer locations are clustered. Concentrated communities of interest are less expensive to serve. To the extent neither model accurately accounts for the clustering of customer locations in otherwise low density areas, as several workshop participants indicated, entry costs and universal service support costs are overstated in rural areas.
3. Competitive local exchange carriers do confront higher costs of capital than incumbent providers. Independent, published reports have estimated CLEC long run weighted average capital costs at about 16% or higher, but entrants' higher capital costs cannot merely be imputed into these snapshot cost models as a current return. Neither model purports to calculate costs over an economic decision cycle or planning period. Competitors do evaluate the financial viability of entry decisions using multi-year discounted cash flow models rather than the current return on investment criteria that typify mature firms such as monopoly incumbent providers.⁶ While it would be desirable to equip the proxy cost models for more dynamic analysis of life cycle costs, changes in demand and market penetration, it is not clear that any model discussed at

⁵ Current technology also allows the development of systems that reduce maintenance costs, back office support costs and other "overhead." It would be irrational for an entrant to forego these savings by attempting to mimic the incumbents architecture.

⁶ Cash flow, terminal valuation assessments also are likely to be highly customer- or area-specific. For these reasons, it is unlikely that any data that could be supplied by CLECs could be mapped to the data inputs used in either proxy model. Given the burden of producing the data and its dubious utility, the staff should not consider suggestions by incumbent providers that CLECs should provide data for the cost models.

the workshop provides a suitable starting point for such an analysis.

If the FCC /Joint Board staff believe that a cost of capital higher than the ILEC's should be used for these purposes, it should ensure as much as possible that other inputs to the models are treated consistently. Increasing the long run net earnings requirement specified for universal service alleviates the need to determine fixed, "economic" depreciation rates, as discussed below. In addition, if a higher long run earnings requirement is imputed for universal service costs, higher long-run fill factors should be used in order to make the cost models' output better reflect long-run life cycle costs.

4. None of the discussions concerning "economic" depreciation at the workshop adequately reflected depreciation practices in a fully competitive market. CLECs must behave as competitive firms from the commencement of operations, regardless of whether actual competition in the overall local telecommunications sector is significant and sustained. The workshop discussions treated depreciation rates as a separate cost input. In competitive markets, the rate of capital recovery is more of a by-product of lender requirements, tax laws, a firm's market position and market cost of capital, as well as other factors— rather than a distinct input. In addition, some of the specialized methods for computing "economic" depreciation as a separate cost input are driven by subjective estimates of future technology obsolescence curves and factors that have nothing to do with basic universal service.

Particularly if the cost model does reflect an entrant's higher debt and equity costs, proxy calculations that do not include speculative grounds for accelerated capital recovery will not misstate the capital recovery factors confronted by a hypothetical market entrant. Using current depreciation allowances also will make the proxy costs easier to administer.

Sensitivity tests and other staff analyses. We recommend that the FCC/Joint Board staff consider using the proxy models so as to relax any assumptions about the hypothetical entrant and to test alternative inputs. The staff will have to perform sensitivity tests using alternative data and assumptions.

An important consideration with respect to such tests is the slope of the cost curve estimated by either proxy model, i.e., the difference between the estimated costs in the lowest density areas and the highest density areas. Incumbent providers rationally would prefer the highest possible slope. Such a result would both maximize the amount of universal service support above any given price benchmark, in the lowest density areas, and potentially constrain competing facilities-based entry for unbundled network elements in the highest density areas by understating true forward-looking economic costs. The cost slope produced by the BCPM is indeed higher than that estimated by the HPM. Therefore, it is important that staff-devised sensitivity analyses utilize the HPM for each specified test, regardless of whether the same or equivalent tests are always performed using the BCPM.

Some assumptions about investments should be tested using alternative data — in addition to considering alternative costs of capital and relaxing model assumptions concerning switch locations. The drop wire investment costs identified in the current HPM may not reflect adequate labor costs, although the drop investment used in the BCPM appears to exceed the costs that a reasonable efficient entrant would incur to install connections to a large collection of customer premises. Similarly, neither model's default assumptions concerning the sharing of supporting structures appears to properly reflect a true forward-looking environment typified by sharing among multiple providers of communications services.⁷

Among the other important factors that should be analyzed by the staff are clustering, overheads, switch costs and other rural costs:

Clustering. We noted above that the extent to which customer locations are clustered could significantly affect the economics of a hypothetical entrant's serving lower density areas. However, information concerning the clustering of customer locations in less dense areas may simply not be available or would be difficult to integrate within the geographic data sets of either model. The effect of clustering, by definition, is to increase the relative density of any given area. Therefore, combining the access line demands for multiple, lower density zones at standardized intervals (e.g., 10% of the lower density zone lines are reassociated with the next higher zone, then 20% and so on) can estimate the impact of recognizing clustering.

Overhead loadings. The per line additive in the BCPM for overhead costs is likely to reflect cost causation somewhat better than a pure percentage adjustment. However, the indication that the BCPM will impute costs per line which are some 40% below the costs identified in BCM2 suggests that the BCPM proponents should carefully document how both the prior and current values were estimated. A change of such magnitude indicates significant changes in, and thus possible errors, in both methods and input data. Because the HPM may have other desirable features, the percentage overhead loading factor used in that model should also be analyzed. Some empirical data is available for this purpose. For example, a 15% competitive surrogate for overhead markups was estimated in California by analyzing median price markups in Pacific Bell's and GTE California's existing centrex-type products.⁸ These products are subject to long-standing actual competition from PBX systems and similar alternatives, thus provide a market-based indicator of the competitive overhead markups.

⁷ Sharing will vary by type of plant. There is probably more sharing of duct costs and less of poles. While the Hatfield model probably overestimates the sharing between electric utilities and communications carriers, it underestimates the sharing that will occur with CLECs entering the markets. Sharing of support structures among communications services providers is necessary to reduce a significant barrier to the development of competition. If all supporting structure costs are reflected in the universal service costs, incumbent providers will have fewer economic incentives to enter into cost-based structure sharing arrangements with market entrants.

⁸ California PUC, Docket No. R. 93-04-003 / I. 93-04-002, Reply Testimony of Marvin Kahn, July 10, 1996.

Switch costs. Neither proxy model adequately calculates switch costs, and the most recent revisions of the proxy models do not cure this problem. Attachment 4 to the January 8 submission concerning the BCPM only generally describes how its switch cost curve was estimated. The description appears to indicate that the reporting companies had a great deal of discretion concerning how the switch cost modeling program was run, and that the resulting data were edited subjectively in order to develop the cost curve. The HPM also is criticized for insufficient switch cost data. As noted, we believe it is vital for the FCC to independently derive general, public information on vendor pricing practices, particularly with respect to switching systems. This information should be used to derive better switch cost information.

We believe better proxy costs for switching will be developed by treating the switch as a platform capable of offering services such as Custom Calling, CLASS and voice mail services. Such treatment should not and does not imply that such vertical features are part of "basic" service or that price regulation of such services is necessary. These services are by and large priced "to the market" today in any event and subject to few regulatory price constraints in most jurisdictions. Instead, analyzing switch costs for the integrated provision of basic and vertical services is preferable in order to eliminate what could be a complicated and controversial switch cost allocation exercise. These service capabilities are intrinsic to current generation switch technology. Trying to allocate switch costs between these services and the services deemed basic by the Joint Board would require reliance on SCIS cost model runs or other proprietary cost models — compromising in turn the important policy goal of making the cost benchmark process as open and publicly accessible as possible.

The integrated treatment of switching costs also allows the revenue benchmark to include service provider revenues from these vertical services, consistent with the Joint Board's recommendation. This treatment is appropriate because the possibility of realizing such additional, highly profitable revenue streams would clearly influence any service provider's economic decision whether to serve a geographic area. The economic forces driving any provider's decision to serve an area should be captured as accurately as possible, in order to avoid distorting the amount of government-mandated transfers legitimately necessary to maintain universal service.

Other rural area costs. Both models, as described at the workshops, must be scrutinized particularly carefully with respect to cost estimates for atypically long loops. The BCPM assumes that long loops in rural areas would be served by a combination of traditional copper and fiber facilities, whereas the HPM models a traditional analog copper loop design. We urge the FCC staff to develop additional data regarding other provisioning arrangements in order to validate either one of the design assumptions in the two models.

Conclusion

The FCC /Joint Board staff appear to have the tools available to reasonably estimate universal service support requirements. Additional data are needed and these data should be publicly available to the maximum feasible extent.

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Comments of the Association for Local Telecommunications Services was served January 24, 1997, on the following persons by First-Class Mail or by hand service, as indicated.


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